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COMMISSION POLICY ON TEXT FONTS

Text size and placement shall be done in accordance with MDOT standards. ROADWAY DESIGN fonts (font resource files) are to be used for placing text in design files and shall be used on all Highway plans. *Font Resource Files* delivered by or with Microstation *or True Type Fonts* provided with your Computers Operating System **SHALL NOT** be used.

ROADWAY DESIGN Font Sizes are based on the following Commission's policy.

The COMMISSION's policy requires the contract plans to be a 50% reduction of the original plans; therefore, the CONSULTANT shall provide a minimum letter size of 1/8 inch (preferably 0.15 inch) in order to be legible when reduced to 50% of the original size.

FONTS - FREQUENTLY ASKED QUESTION

How can I found out how all available fonts provided for Roadway Design will look like in Microstation?

<u>TAG HERE</u> to go to go see what the fonts look like. Each font number in Microstation will display a font based on the font resource file. This resource file is a binary file, so you can't look at the fonts unless they have been placed in the design file. This has already been done for you in this document. The fonts are displayed as they would look in Microstation and they are laid out on the page based on the order of the character on our normal computer keyboard. In addition a sample page of each font is included to see how the font looks using common civil annotation examples.

Is there a prefered font to use on drawings?

Yes, <u>Font 1</u> is what we would consider the prefered font to use on your drawings. This font was created to be a civil engneering font. It is not a equalled spaced font like many engeering fonts, so if you need your text to line up in column format you should use another font. Font 1 is easy to read at both small and large scales and has no confusing differences between O's and zeros, L's and ones, etc. It also includes custom symbols for centerline, baseline, delta, and the plus/minus symbol. We do not intend for this font to be used exclusively, because other fonts are better suited for headings and title blocks.

When I plot using IPLOT I don't see the same fonts on the plot that I do in the Microstation. What am I doing wrong?

When you are plotting within Microstation, IPLOT should automatically knows which workspace is being by the workspace being used. When using IPLOT Organizer, you are plotting without Microstation, so you must specify what workspace name you are using on the General Tab setup. If either of the previous conditions still do not work, then you need to get support section to make sure that you IPLOT and Microstation have been configured properly on your workstation. Microstation has to be pointed to the proper font resource files and IPLOT Server has to be configured so that it will use this font resource files you tell it to use. This is accomplished by IPLOT looking to see what resource files are set in your current workspace.

Can I create my own fonts to use in Microstation or use Windows fonts?

It possible, but it takes a lot of work and you may have to use outdated software. Since Roadway Design is using IPLOT you cannot create your own fonts and have them automatically plotted. Windows fonts can now be used, but atr still considered non-standard.

Will any of the fonts in Microstation match fonts that are used in Windows applications?

Yes, there are a few fonts that were taken directly from the Windows operating system. The fonts are numbered 3, 4, 5, and 16. The fonts were taken from Window NT Version 3.51, so there is no way I can be sure that they will match Windows fonts exactly in newer versions of Windows, but they should be similar.

What is the easiest way to select fonts in Microstation?

There are several way to set your active font in Microstation. You can do it in the Place Text Tool Setting dialog box, but one of the quickest way is to just type in FT=<font_number>.

What will happen if someone sends you a Microstation design file that uses fonts that are not in our font resource file?

If the text in the design file is assigned a font number that is not located in our resource file, then Microstation will display the font at the "default" font number. Our default font number has been assigned a font number 1 (one). If possible, get a copy of the senders font resource file and then make arrangements with support to plot this file. Otherwise, you will have to modify the drawing to match our fonts. If you have received files from outside sources that have contracted to do work for the DOT an they have used fonts other than those supplied by use. You should make an effort to contact them and make them aware that they are required to use only resource files supplied by us.

If I translate AutoCad drawings into Microstation, how will the fonts convert?

First, let me say that it is Roadway Design's policy not to accept AutoCad drawings. The reason is that it is difficult to confirm the validity of the converted drawing. If you do not have a choice, you can setup conversion rules when converting the files to design files.

If possible, don't convert the AutoCad Drawing. Microstation V8 lets you open AutoCad drawings for modification without making translations. This will allow you to work as if you were in AutoCad, but still retain most of the Microstation functionality. This will allow you to make revisions and plot it and lets you keep the file in AutoCad format.

THE HISTORY OF ROADWAY DESIGN FONTS

Font Modifications

This section is included for the Cadd Support Managers. It contains a record of how Roadway Design's font resource was created.

The original font library was created on the VAX platform using default fonts delivered with the software. These fonts were already included in the standard font library delivered with the IGDS graphics software. The fonts were (0, 1, 7, 23, 26, 41, 42, 50, and 127).

Font 127 is the same a font 0 and was only used when you told Microstation to display your fonts in "fast" mode. Fast mode is no longer a valid command in Microstation, because of enhanced graphics technology.

While still working on the VAX platform, Roadway Design decided to add some additional fonts. The fonts were obtained from the VAX system disk font directory supplied by Intergraph Corporation. Using font utilities supplied by Intergraph, we inserted some font cells into our library. The font cell names on the VAX were different from the actual font numbers we used in our library.

The following chart shows which cell library was used and which font numbers were used in our font library.

VAX Cell Library	Font Number
centuryschoolbook_702_bi_l.cel	<u>6</u>
dutch_766_i_l.cel	<u>8</u>
cooperblack_741_k_l.cel	9
geometricfutura_211_h_l.cel	<u>10</u>
ocrb_861_l.cel	<u>11</u>
swiss_722_c_l.cel	<u>12</u>
swiss_722_bc_l.cel	<u>13</u>
swissslabserif_722_k_l.cel	<u>14</u>
baskerville_401_b_l.cel	<u>15</u>

When Roadway Design stopped using the VAX IGDS software and started using Microstation, we made a few additional revisions. These changes includes revising a few cells in font1.cel. This included adding symbols for centerline, baseline, and delta. See Font 1 for the location of these symbols.

Another change was the addition of <u>Font 2</u>. This font was inserted by importing an engineering, which was originally Font 3 in Microstation's font library.

INSERTION OF SOME WINDOWS SYSTEM FONTS IN THE MICROSTATION FONT RESOURCE FILE

When we upgraded to Microstation Version 5 we had to move the fonts over to a resource file. This was done with the Font Installer Dialog. When this was done, we added some additional fonts. These fonts were truetype fonts located on the Windows NT 3.51 operating system.

The following chart shows the Microsoft WINDOWS TrueType fonts that were added to our font resource file. These fonts were used to replace some rarely used fonts in our resource file. An additional font 16 was added. Font 16 contains symbols that can be used to enhance documents.

Windows Font	Font Number
arialbd.ttf	<u>3</u>
courbd.ttf	<u>4</u>
timesbd.ttf	<u>5</u>
wingding.ttf	<u>16</u>

Microstation V8 will allow you to use any of the current Windows Systems fonts loaded on your workstation. You should never using those fonts. They may not be available on other systems.

In August of 2004, using the font editor available in Microstation V8. I have modified some of the character mappings to make some new characters available. The chart below indicates what has change:

Font No.	Old Character	New Character
2	~	±
3	٨	0
3	~	±
4	٨	0
4	~	±
5	٨	0
5	~	±
6	~	±
8 - 15	~	±

We lost the ability to modify any fonts many years ago when the cell libraries for the fonts were lost on the VAX, but in January of 2005, using a old mdl utility called fontexpt.ma and Microstation SE, We were able to create cell libraries from all of the fonts in Roadway Design's resource file. This gave use the ability to "tweak" the fonts.

Having the fonts available allowed us to fix many of the faults of the fonts. No major changes were made to the fonts other than making individual characters look better or adding in symbols such as the degree symbols, plus/minus symbols.

Below are charts showing what changes were made:

FONT #	CHARACTER	DESCRIPTION
0	` to +/-	Accent character replaced with a +/- character
0	9	Improved appearance
0	~ to Delta	Tilde character replaced with delta character
1	Υ	Improved appearance
1	&	Improved appearance
1	(Improved appearance
1)	Improved appearance
1	9	Improved appearance
1	@	Improved appearance
1	Q	Improved appearance
1	С	Improved appearance
1	` to +/-	Accent character replaced with a +/- character
1		Period character – added more space behind the character
2	to CL	Centerline symbol moved from > character to the pipe character
		location
2	>	Created a new symbol for the Greater than character
2	<	Created a new symbol for the Less than character

2	\	Created a new symbol for the Backslash character
2	0	Added a slash in the zero character
6	^ to °	Carat symbol changed to a degree symbol
6	0	Added a slash in the zero character
7	@	Created a new symbol for the "at" character
7	` to +/-	Accent character replaced with +/- character
7		Period character – added more space behind the character
7	*	Created a new symbol for the asterisk character
7	0	Added a slash in the zero character
7	~ to Delta	Tilde character replaced with delta character
8	^ to °	Carat symbol changed to a degree symbol
9	^ to °	Carat symbol changed to a degree symbol
10	^ to °	Carat symbol changed to a degree symbol
11	^ to °	Carat symbol changed to a degree symbol
11	0	Added a slash in the zero character
11	/	Created a new symbol for the forward slash character
11	-	Created a new symbol for the minus sign character
12	^ to °	Carat symbol changed to a degree symbol
12		Period character – added more space behind the character
13	^ to °	Carat symbol changed to a degree symbol
14	^ to °	Carat symbol changed to a degree symbol
15	^ to °	Carat symbol changed to a degree symbol
23	\$	Improved appearance
23	*	Improved appearance
23	+	Improved appearance
23	l	Added more space behind the character
23	L	Added more space behind the character
23	A	Added more space behind the character
23	D	Added more space behind the character
23	U	Added more space behind the character
23	V	Added more space behind the character
23	X	Added more space behind the character
23	•	Period character – added more space behind the character
23		Improved appearance
23	>	Improved appearance
23	<	Improved appearance
23	Q	Improved appearance
23	R	Improved appearance
23	0 ` to . ! /	Added a slash in the zero character
23 23	` to +/-	Accent character replaced with +/- character
41	~ to Delta ` to +/-	Tilde character replaced with delta character
41	0	Added a slack in the zero character
41		Added a slash in the zero character
41	>	Improved appearance
	<	Improved appearance
41	+	Improved appearance
41	-	Improved appearance

41	L	Improved appearance
41	Е	Improved appearance
41	#	Improved appearance
41	4	Improved appearance
41	=	Improved appearance
41	Q	Improved appearance
41	F	Improved appearance
41	G	Improved appearance
41	1/2	Added new character stacked fraction
41	1/4	Added new character stacked fraction
41	3/4	Added new character stacked fraction
41	1/8	Added new character stacked fraction
41	3/8	Added new character stacked fraction
41	5/8	Added new character stacked fraction
41	7/8	Added new character stacked fraction
42	` to +/-	Accent character replaced with +/- character
42	1/2	Added new character stacked fraction
42	1/4	Added new character stacked fraction
42	3/4	Added new character stacked fraction
42	1/8	Added new character stacked fraction
42	3/8	Added new character stacked fraction
42	5/8	Added new character stacked fraction
42	7/8	Added new character stacked fraction
50	Q	Improved appearance
50	J	Improved appearance
50	6	Improved appearance
50	9	Improved appearance
50	` to +/-	Accent character replaced with +/- character
50	~ to Delta	Tilde character replaced with delta character
127	Fast Font	Replaced entire font with modified font 0, 127 is the same as
		font 0 anyway

ROADWAY DESIGNS FONT RESOURCE FILES

Roadway Design has standardized its fonts and they should always be used for our roadway plan design files. No resource files other than those supplied by Roadway Design should be used.

Microstation can only display the fonts correctly if the workspace is set to read Roadway Design's font resource files. There are no differences between the English or Metric fonts.

The characters in the following images are arranged a close as possible to the layout of your keyboard. This will help indicate which key to press on the keyboard to place the character as it is shown.

With the introduction of V8i Microstation and the support of true type system fonts some problems were introduced in some of the resource fonts. The problems are indicated in this document.

RWDFONT.RSC

This was the name of Roadway Designs font resource file that contained all the fonts shown in this chapter.

Roadway Design is converting to a combined divisional font resource file. This resource file will contain many more fonts other than thoses shown in this chapter. These are the fonts that are used by other divisions. The purpose of switching to this resource file is to provide a way for users to display and plot any drawing created by MDOT and not just Roadway Design. The name of the resource file will be:

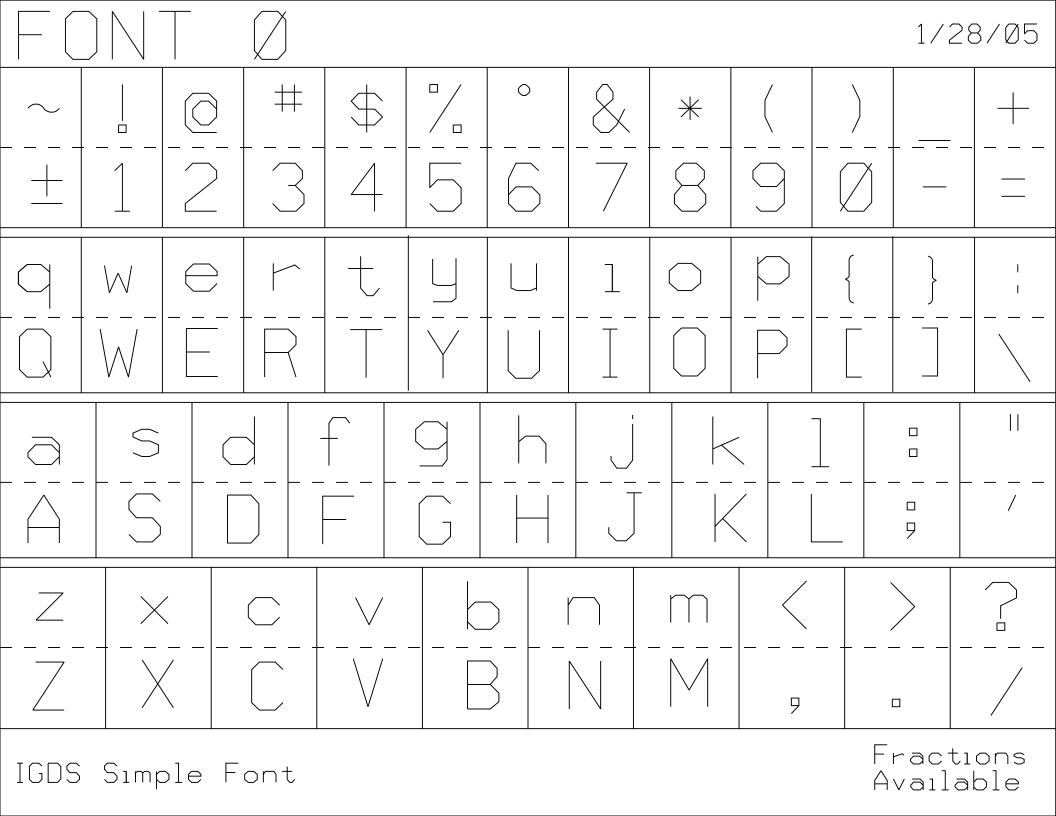
MDOTFONT.RSC

Even though there are many addition fonts now available in the resource. Roadway Design project are to include just the fonts shown below.

This font is a "stick font" that came from Intergraph's original IGDS font library. It's original font name was also number as font 0. It was considered a default font in IGDS. This font displays very quickly.

The following modification were done on Jan. 2005:

CHARACTER	DESCRIPTION
` to +/-	Accent character replaced with a +/- character
9	Improved appearance
~ to Delta	Tilde character replaced with delta character

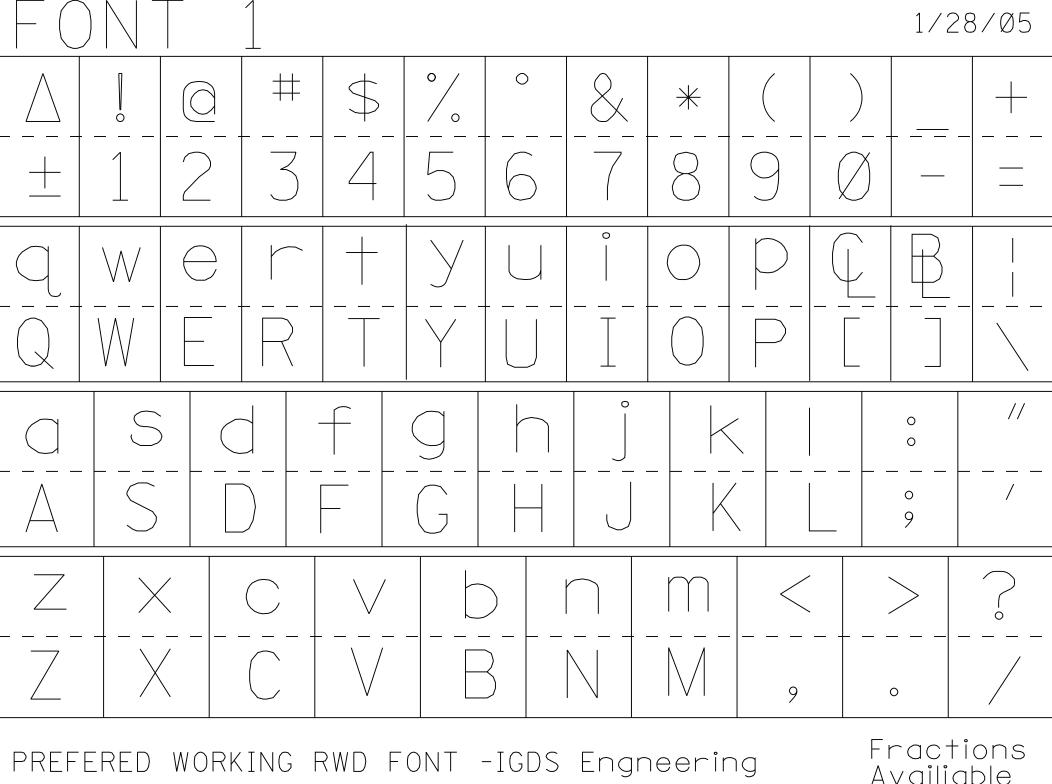


This font is a "stick font" that came from Intergraph's original IGDS font library. The original font name was also font 1 in the IGDS library. The original modifications done during the IGDS days were; put a slash in the zero and "touched-up" some of the others. I also added some engineering characters by replacing some of the other rarely used ones. The tilde (~) was replaced with a Delta symbol. The curly braces { and } were replaced with a centerline and baseline symbol.

This is Roadway Designs preferred font for engineering plans. We don't prohibit using other fonts, but prefer that you use this font for the main drawing details on your plans.

The following modification were done on Jan. 2005:

CHARACTER	DESCRIPTION
Y	Improved appearance
&	Improved appearance
(Improved appearance
)	Improved appearance
9	Improved appearance
@	Improved appearance
Q	Improved appearance
С	Improved appearance
` to +/-	Accent character replaced with a +/- character
	Period character – added more space behind the character

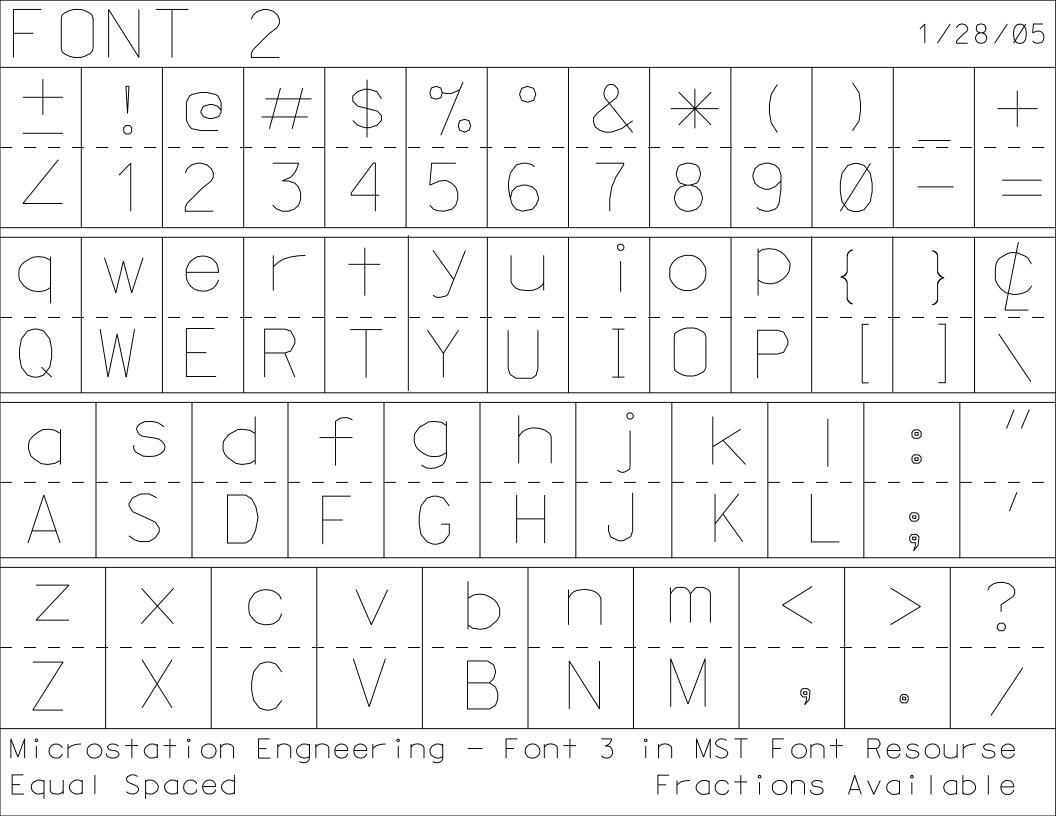


Availiable

This font is a "stick font" that came from the original Microstation Version 2 font resource. The original font name in that resource file was font 3, but was placed in our library as font 2, 3 was already being used. This font was part of Microstation's new default font library. It is a equally spaced engineering font.

The following modifications were done on Jan. 2005:

CHARACTER	DESCRIPTION
to CL	Centerline symbol moved from > character to the pipe character location
>	Created a new symbol for the Greater than character
<	Created a new symbol for the Less than character
\	Created a new symbol for the Backslash character
0	Added a slash in the zero character



This font is Windows TrueType Font converted to be used in Microstation. The font came from the standard Windows NT Version 3.51 OS and it had the name arialbd.ttf. In fact, the font you actually looking at right now is Arial. Our original font 3 was an Intergraph IGDS font, but is was replaced when we started using NT. It was replaced for two reasons. First, the original font wasn't used very often and did not look very good. Secondly, I wanted to be able place a font in Microstation the would look similar to a ARIAL font in a windows document. It can be used to emulate the Arial font from an imported Windows document. This font looks good, but lacks the characteristics of an engineering font and should be used in areas were you don't care about having "engineering" capabilities.

_												
±		@	#	\$	%	0	&	*	()		+
•	1	2	3	4	5	6	7	8	9	0	•	
q	W	е	r	t	У	u	i	0	p	{	}	
Q	W	E	R	T	Y	U		0	P]	\
a	S			f	g	h	j	k	(•	11
A	S			F	G	Н	J				•	•

b X

ARIAL (Arialbd.ttf) - Windows Truetype

No Fractions

FONT 3

THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG. the quick brown fox jumps over the lazy dog.

1 23 456 7,890	31° 40' 68.495"	C.L. HWY. 80 B.L. HWY. 80
12,345 678,901	*(SEE WK. SH. 10)	1@18"
699,616	STA. 601+00 ±	2@24"
, ,	31A. 001+00 ±	3@36"

THIS FONT DOES NOT CONTAIN ANY FRACTION CHARACTERS. THESE WERE CREATED BY WORD PROCESSOR SIMULATION.

SAMPLES

This font is Windows TrueType Font converted to be used in Microstation. The font came from the standard Windows NT Version 3.51 OS and it had the name courbd.ttf. The original font 4 was an Intergraph IGDS font, but is was replaced when we started using NT. It was replaced for two reasons. First, the original font wasn't used very often and did not look very good. Secondly, I wanted to be able to place a font in Microstation the would look the same as a COURIER font in a windows document. The courier font is a equally spaced character font. It can be used to emulate the Courier font from an imported Windows document. It can work well in areas where you need the characters to line up evenly in columns.

FONT 1/28/05 0

* **@**

G

b

 \mathbf{B}

(courbd.ttf) - Windows Truetype

W

S

X

Z

Z

COURIER

E

r

F

V

4 6

u

h

H

J

n

0

k

K

m

M

11

No Fractions

THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG. the quick brown fox jumps over the lazy dog.

1 23	31° 40' 68.495"	C.L. HWY. 80
456		B.L. HWY. 80
7,890		
12,345	4 (ATT TITE OF 10)	1018"
678,901	* (SEE WK. SH. 10)	_
699,616		2024"
099,010	STA. 601+00 ±	3@36"

THIS FONT DOES NOT CONTAIN ANY FRACTION CHARACTERS. THESE WERE CREATED BY WORD PROCESSOR SIMULATION.

SAMPLES

This font is Windows TrueType Font converted to be used in Microstation. The font came from the standard Windows NT Version 3.51 OS and it had the name timesbd.ttf. The original font 5 was an Intergraph IGDS font, but is was replaced when we started using NT. It was replaced for two reasons. First, the original font wasn't used very often and did not look very good. Secondly, I wanted to be able to place a font in Microstation the would look the same as a TIMES NEW ROMAN font in a windows document. It can be used to emulate the Times fonts from an imported Windows document. This font looks good, but lacks the characteristics of an engineering font and should be used in areas were you don't care about having "engineering" capabilities

a

Z

TIMES NEW

No Fractions

u

h

n

b

ROMAN (timesbd.ttf)-Window Truetype

*

0

p

k

X

F

 \mathbf{V}

FONT 5

THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG. the quick brown fox jumps over the lazy dog.

1 23 456 7,890 12,345 678,901		31° 40' 68.495"	C.L. HWY. 80 B.L. HWY. 80			
		*(SEE WK. SH. 10) STA. 601+00 ±	1@18" 2@24" 3@36"			
1/2	1/4 3/4	1/8 3/8 5/8 6/8 1/16 3/16 5/16	7/16 9/16 11/16 13/16 15/1			

THIS FONT DOES NOT CONTAIN ANY FRACTION CHARACTERS. THESE WERE CREATED BY WORD PROCESSOR SIMULATION.

SAMPLES

This font is a "bit stream" font that came from Intergraph's original IGDS font library. It's original font name was centuryschoolbook_702_bi_l. It was placed in our library from a cell library gotten from Intergraph. Bit Stream fonts are similar to filled shapes. This font has a slanted looked to the text.

The following modifications were done on Jan. 2005:

CHARACTER	DESCRIPTION
^ to º	Carat symbol changed to a degree symbol
0	Added a slash in the zero character

IGDS Bit Stream (centuryschoolbook_702_bi_l)

FONT 6

THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG. the quick brown fox jumps over the lazy dog.

1 23 456 7,890 12,345 678,901 699,616		31° 40' 68.495"	C.L. HWY. 80 B.L. HWY. 80 1@18" 2@24" 3@36"			
		*(SEE WK. SH. 10) STA. 601+00 ±				
1/2	1/4 3/4	1/8 3/8 5/8 6/8 1/16 3/16 5/16	7 ₁₆ 9 ₁₆ 11/ ₁₆ 13/ ₁₆ 15/ ₁₆			

THIS FONT DOES NOT CONTAIN ANY FRACTION CHARACTERS. THESE WERE CREATED BY WORD PROCESSOR SIMULATION.

SAMPLES

This font is a "stick font" that came from Intergraph's original IGDS font library. It's original font name was also font 7. This font is compressed to about 60% of the actual text size used in Microstation, it resembled a style of font that is commonly used on many official seals and titles. The unusual thing about this font is the height, it is about 60 percent smaller than the actual text height you set in Microstation. This font is used in our plan sheet title block for the words "Mississippi Department of Transportation", but is rarely used anywhere else.

The following modification were done on Jan. 2005:

CHARACTER	DESCRIPTION
@	Created a new symbol for the "at" character
` to +/-	Accent character replaced with +/- character
	Period character – added more space behind the character
*	Created a new symbol for the asterisk character
0	Added a slash in the zero character
~ to Delta	Tilde character replaced with delta character

Compressed (characters are 60% less than normal text size) No Fractions

THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG. the quick brown fox jumps over the lazy dog.

MISSISSIPPI DEPARTMENT OF TRANSPORTATION

	1 23 456 7,890		Δ = 31° 40° 68. 495°°							C.L. HWY. 80 B.L. HWY. 80				
67	12,345 78,901 ——— 99,616	* (*(SEE WK. SH. 10) STA. 601+00 ±						1@18" 2@24" 3@36"					
1/2	1/4 3/4	1/8 3/8	5/ ₈	<u>6/8</u>	1/16	3/16	5/16	7/16	9/16	11/ ₁₆	13/16	15/ ₁₆		

NOTE: This font contains no fractions. Microstation can simulate fractions when using the Word Processor, but the fraction is not a single element.

SAMPLES

This font is a "bit stream" font that came from Intergraph's original IGDS font library. It's original font name was dutch_766_i_l. It was placed in our library from a cell library gotten from Intergraph. Bit Stream fonts are similar to filled shapes. It is a "script" like font.

The following modification were done on Jan. 2005:

CHARACTER	DESCRIPTION
^ to °	Carat symbol changed to a degree symbol

TUIVIO											1/20/0	<i>)</i> 5
<u>+</u>	. <u>'</u>	a	#	\$	%	0	3	*				+
•	1					6	7	8	9	0	_	_
q	w	e	~	t	y	u	i	0	Þ	{	}	
Q	W	E	R		Y	U	I	O	P			
a	S	(d	f	g	h	$\int j$	K	2	l	•))
\overline{A}	S		D	F	G	H	$\int \mathcal{J}$	1	K .	\overline{L}	•	• • • • • • • • • • • • • • • • • • •
2	X		C	v	l	7	n	m	<	,	>	?
7.	7		C	$ar{v}$,	3	N	M		_ + _		

IGDS Bit Stream (dutch_766_i_l)

No Fractions

THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG. the quick brown fox jumps over the lazy dog.

	B.L. HWY. 80
*(SEE WK. SH. 10) STA. 601+00 ±	1@18" 2@24" 3@36"

THIS FONT DOES NOT CONTAIN ANY FRACTION CHARACTERS. THESE WERE CREATED BY WORD PROCESSOR SIMULATION.

This font is a "bit stream" font that came from Intergraph's original IGDS font library. It's original font name was cooperblack_741_k_l. Bit Stream fonts are similar to filled shapes. This is has a modern look and is a very bold font.

The following modification were done on Jan. 2005:

CHARACTER	DESCRIPTION
^ to °	Carat symbol changed to a degree symbol

q	W	e	r	t	y			i	0
Q	W	E	R	T	Y		U	I	0
a	S		1	£	g	1	h	j	1
A	S		D	??	G	?	?	J	
7	X		C	v	7	b	7	?	??
Z	7		C	•	7	В		N	M
IGDS	Bit S		-	_	black_			-	·1-

\$ %

No fractions

fONT 9

The QUICK BROWN fox JUMPS OVER THE LAZY DOG. the quick brown fox jumps over the lazy dog.

456 7,890		1
7,890		23
•	_	456
TA 746		•
12,345 678,901		,
		9,616

31° 40′ 68.495″

C.L. WY. 80

B.L. WY. 80

*(SEE WK.S . 10)

STA. 601+00 ±

1@18"

2@24"

3@36"

1, 1, 3,

1/8 3/8 5/8 6/8

1/16 3/16 5/16 7/16 9/16 11/16 13/16 15/16

NOTE: This font contains No fractions. Microstation can simulate fractions when using the Word Processor, but the fraction is not a single element.

This font is a "bit stream" font that came from Intergraph's original IGDS font library. It's original font name was geometricfutura_211_h_I. Bit Stream fonts are similar to filled shapes. This font has a clean modern look.

The following modification were done on Jan. 2005:

CHARACTER	DESCRIPTION
^ to °	Carat symbol changed to a degree symbol

FONT 10 12/8/11 0 w e 0 U G Z

IGDS Bit Stream (geometricfuture_211_h_l)
?? = The at symbol currently unusable

No Fractions

FONT 10

THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG. the quick brown fox jumps over the lazy dog.

2: 45: 7,89:	6		3	31° 4	40′ 68	8.495″	•				L. HW L. HW		
12,34	12,345 678,901 *(SEE WK. SH. 10)									1 a 1 a 2 a 2	4″		
											3 a 3	6"	
1/2 1/4	3/4	1/8	3/8	5 /8	6 / 8	1/16	³ /16	5/ 16	7 /16	⁹ / ₁₆	11/16	13 _{/16}	15 _/ 16

NOTE: This font contains no fractions. Microstation can simulate fractions when using the Word Processor, but the fraction is not a single element.

This font is a "bit stream" font that came from Intergraph's original IGDS font library. It's original font name was ocrb_861_I. Bit Stream fonts are similar to filled shapes. This font is pleasant looking and is often used for title block headings and detail titles.

The following modification were done on Jan. 2005:

CHARACTER	DESCRIPTION
^ to º	Carat symbol changed to a degree symbol
0	Added a slash in the zero character
/	Created a new symbol for the forward slash character
-	Created a new symbol for the minus sign character

•												
<u>+</u>	ļ -	@	#	\$	%	0	&	*	()		+
•	1	2	3	4	5	6	7	8	9	Ø		=
q	W	е	r	t	У	u	i	0	p	{	}	
Q	W	E	R		Y	U	I	0	P]	
а	S	C	k	f	g	h	j	k	(-	11
Α	S			F	G	Н	J	k	<u> </u>	L	•	1
Z	>	<	С	V	k	O	n	m	<		>	?
Z	\	(C	V	<u> </u>	3	N	M		7	•	

IGDS Bit Stream (ocrb_861_l)

No Fractions

FONT 11

THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG.

the quick brown fox jumps over the lazy dog.

1 23 456 7 -890	31° 40' 68.495"	C.L. HWY. 8Ø B.L. HWY. 8Ø
7,890 12,345 678,901	*(SEE WK. SH. 10)	1@18'' 2@24''
699,616	STA. 601+00 ±	3@36"
1/2 1/4 3/4	1/8 3/8 5/8 6/8 1/16 3/16 5/16	7/16 9/16 11/16 13/16 15/16

NOTE: This font contains no fractions. Microstation can simulate fractions when using the Word Processor, but the fraction is not a single element.

This font is a "bit stream" font that came from Intergraph's original IGDS font library. It's original font name was swiss_722_c_l. Bit Stream fonts are similar to filled shapes. This font can be used for title block headings and detail titles.

The following modification were done on Jan. 2005:

CHARACTER	DESCRIPTION
^ to º	Carat symbol changed to a degree symbol
	Period character – added more space behind the character

"

No Fractions

±	<u> </u>	@	#	\$	%	0	&	*	()		+
`	1	2	3	4	5	6	7	8	9	0	_	_
q	W	е	r	t	У	u	i	0	p	{	}	
Q	\\/	·	R	T	Y			0	D	Γ	1	

X C V b

IGDS Bit Stream (swiss_722_c_l)

S

a

FONT 12

THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG. the quick brown fox jumps over the lazy dog.

1 23 456 7,890	31° 40′ 68.495″	C.L. HWY. 80 B.L. HWY. 80
12,345 678,901 ————————————————————————————————————	*(SEE WK. SH. 10) STA. 601 + 00 ±	1@18" 2@24" 3@36"
1/2 1/4 3/4	1/8 3/8 5/8 6/8 1/16 3/16 5/16 7/16 1/16 1/16 1/16 1/16 1/16 1/16 1	7/16 9/16 11/16 13/16 15/16 16

NOTE: This font contains no fractions. Microstation can simulate fractions when using the Word Processor, but the fraction is not a single element.

This font is a "bit stream" font that came from Intergraph's original IGDS font library. It's original font name was swiss_722_bc_l. Bit Stream fonts are similar to filled shapes. This font can be used for title block headings and detail titles. This font can be used for title block headings and detail titles.

The following modification were done on Jan. 2005:

CHARACTER	DESCRIPTION
^ to °	Carat symbol changed to a degree symbol

No Fractions

e

#3

5 4

% 5

G

(swiss_722_bc_l)

V

The at symbol currently unusable

b

B

N

0

u

h

` 1 a w

Z

IGDS

S

S

X

Bit Stream

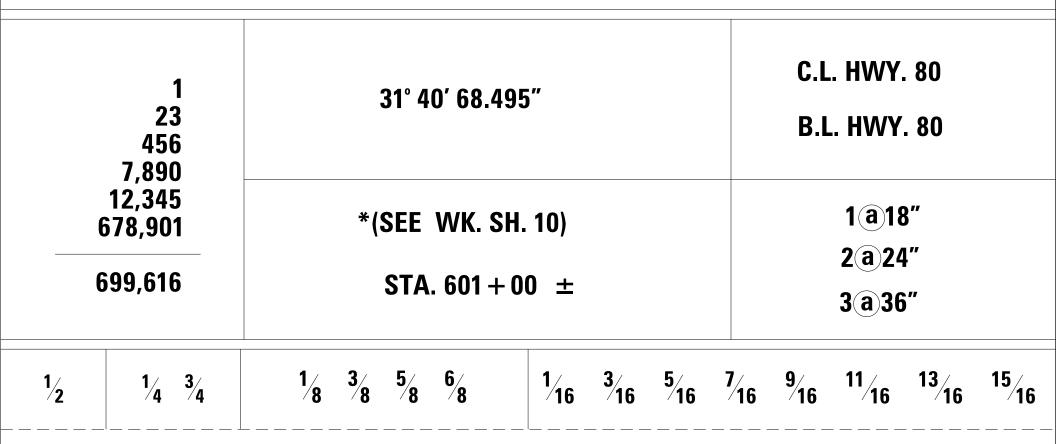
C

*

0

FONT 13

THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG. the quick brown fox jumps over the lazy dog.



NOTE: This font contains no fractions. Microstation can simulate fractions when using the Word Processor, but the fraction is not a single element.

This font is a "bit stream" font that came from Intergraph's original IGDS font library. It's original font name was swissslabserif_722_k_l. Bit Stream fonts are similar to filled shapes. This font is like font 7 in the fact that it is compressed. The height is only 87% of the text height set in Microstation. It looks a little better that font 7 because it is filled.

The following modification were done on Jan. 2005:

CHARACTER	DESCRIPTION
^ to °	Carat symbol changed to a degree symbol

1- (LTA .											
±	I	a	#	\$	%	0	&	*)		+
	1	2	3	4	5	6	7	8	9	0	_	=
d	W	e	r	t	y	u	i	0	p	{	}	
Q	W	E	R	T	Y	U	I	0	P	[]	
a	S	•	ı	f	g	h	j	1	Z	1	•	77
A	S]	D	F	G	H	J		K	L	 • • • • • • • • • • • • • • • • • • •	7
Z	3:		C	V			n	m	<		>	?

IGDS Bit Stream (SwissSlabSerif_722_k_l)

No Fractions

FONT 14

THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG. the quick brown fox jumps over the lazy dog.

	1 23 456 7,890	31° 40' 68	C.L. HWY. 80 B.L. HWY. 80	
12,345 678,901		*(SEE WK.	1@18" 2@24"	
69	99,616	STA. 601	+ 00 ±	3@36"
1/2	1/4 3/4	1/8 3/8 5/8 6/8	1/16 3/16 5/1	6 7/16 9/16 11/16 13/16 15/16

NOTE: This font contains no fractions. Microstation can simulate fractions when using the Word Processor, but the fraction is not a single element.

This font is a "bit stream" font that came from Intergraph's original IGDS font library. It's original font name was baskerville_401_b_I.

Bit Stream fonts are similar to filled shapes. We never attempted to modify or create any of these types of fonts. This font is like font 7 and 14 in the fact that it is also compressed. The height is only 87% of the text height set in Microstation. It looks a little better than font 7 because it is a filled font and it is a more elegant font than 14.

The following modifications were done on Jan. 2005:

CHARACTER	DESCRIPTION
^ to º	Carat symbol changed to a degree symbol

Z

X

m

U

IGDS Bit Stream (baskerville_401_b_l)

No Fractions

U h

n

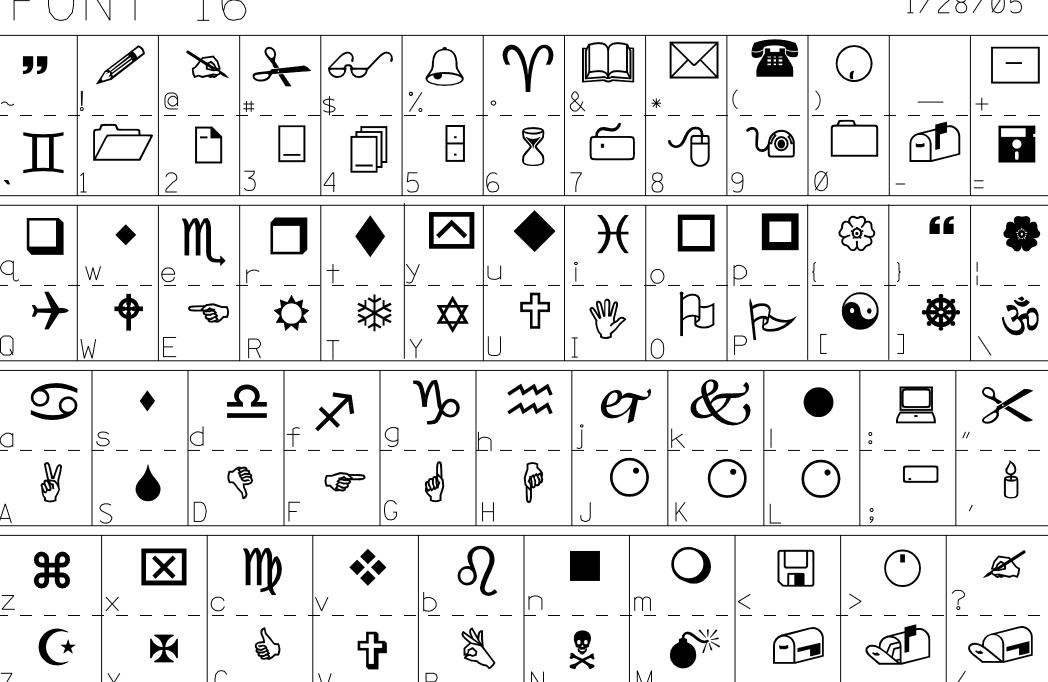
FONT 15

THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG.
the quick brown fox jumps over the lazy dog.

1 23 456 7,890	31° 40' 68.495"	C.L. HWY. 80 B.L. HWY. 80			
12,345 678,901 ————————————————————————————————————	*(SEE WK. SH. 10) STA. 601+00 ±	1@18" 2@24" 3@36"			
1/2 1/4 3/4	1/8 3/8 5/8 6/8 1/16 3/16 5/16	7/16 9/16 11/16 13/16 15/16			

NOTE: This font contains no fractions. Microstation can simulate fractions when using the Word Processor, but the fraction is not a single element.

This font is Windows TrueType Font converted to be used in Microstation. The font came from the standard Windows NT Version 3.51 OS and it had the name wingding.ttf. This font was added mostly because of the interesting symbols. You won't get a whole lot of use out of it, unless you doing a special project that requires some sort of symbol. It could be used for special occasions drawings (birthdays, retirements, etc.), because it includes a lot of symbols.



(wingding.ttf) - Windows Truetype WINDDING

This font is a "stick font" that came from Intergraph's original IGDS font library. The original font name was also font 23 in the IGDS library. The font has a slight forward slant, and was known as the "italics" font. The original problem with this font was it had very poor spacing between characters. The font was modified to repair some of the spacing problems, but this font probably should not be used for large blocks of lettering. This font is used occasionally on our plans.

The following modification were done on Jan. 2005:

CHARACTER	DESCRIPTION
\$	Improved appearance
*	Improved appearance
+	Improved appearance
I	Added more space behind the character
L	Added more space behind the character
A	Added more space behind the character
D	Added more space behind the character
U	Added more space behind the character
V	Added more space behind the character
Х	Added more space behind the character
	Period character – added more space behind the
"	Improved appearance
>	Improved appearance
<	Improved appearance
Q	Improved appearance
R	Improved appearance
0	Added a slash in the zero character
` to +/-	Accent character replaced with +/- character
~ to Delta	Tilde character replaced with delta character

F	$)$ $\sqrt{7}$		23								1/2	8/05
	, o		#	\$	0/	0	&	*				+
 		2	3	4	5	6		8	9		_	=
9	W			<i>†</i>	<i>y</i>		0	0	P	{	}	1
Q												
	S		-	f	g	\nearrow		K	/		0	//
\triangle	5				G						o 9	/
Z	λ	/	C	\bigvee	L			\mathcal{M}			>	\sim
									9		0	
IGD	5 //	alics						Fra	actioi	75 A	vail	able

THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG.

the quick brown fox jumps over the lazy dog.

| 23 | 456 | 7,890 | 12,345 | 678,901 | *(SEE | 5TA.

Δ= 3/° 40′ 68. 495″

*(SEE WK. SH. 10) STA. 60/+00 ± C. L. HWY. 80

C. L. HWY. 80

1018" 2024" 3036"

This font is a "stick font" that came from Intergraph's original IGDS font library. The original font name was also font 26 in the IGDS library. This font has the Greek Alphabet symbols. No modifications were ever done on this font.

1/28/05

IGDS GREEK

This font is a "stick font" that came from Intergraph's original IGDS font library. The original font name was also font 41 in the IGDS library. This font was originally meant to simulate "free-hand" lettering and was called the Architectural font. It is rarely used on Roadway Plans, because of its freehand appearance. The appearance has been improved, but it still should be used sparingly. This font also included a centerline { , baseline }, and delta symbol ~

The following modification were done on Jan. 2005:

CHARACTER	DESCRIPTION
` to +/-	Accent character replaced with +/- character
0	Added a slash in the zero character
>	Improved appearance
<	Improved appearance
+	Improved appearance
-	Improved appearance
L	Improved appearance
E	Improved appearance
#	Improved appearance
4	Improved appearance
=	Improved appearance
Q	Improved appearance
F	Improved appearance
G	Improved appearance

NOTE: Character codes for stacked fractions up to 7/8 were added.

1/28/05

IGOS ARCHITECTURAL (FREEHAND)

FRACTIONS AVAILABLE

THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG.
THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG.

1 23 456 7,890 12,345 678,901
699,616

\triangle =	3 °	40'	68.	495"

Ø)

STA. 601+00 ±

Q HWY. 80

B HWY. 80

1@18"

2@24"

3@36"

1/2 1/43/4 1/83/85/87/8 1/63/65/67/69/611/613/615/6

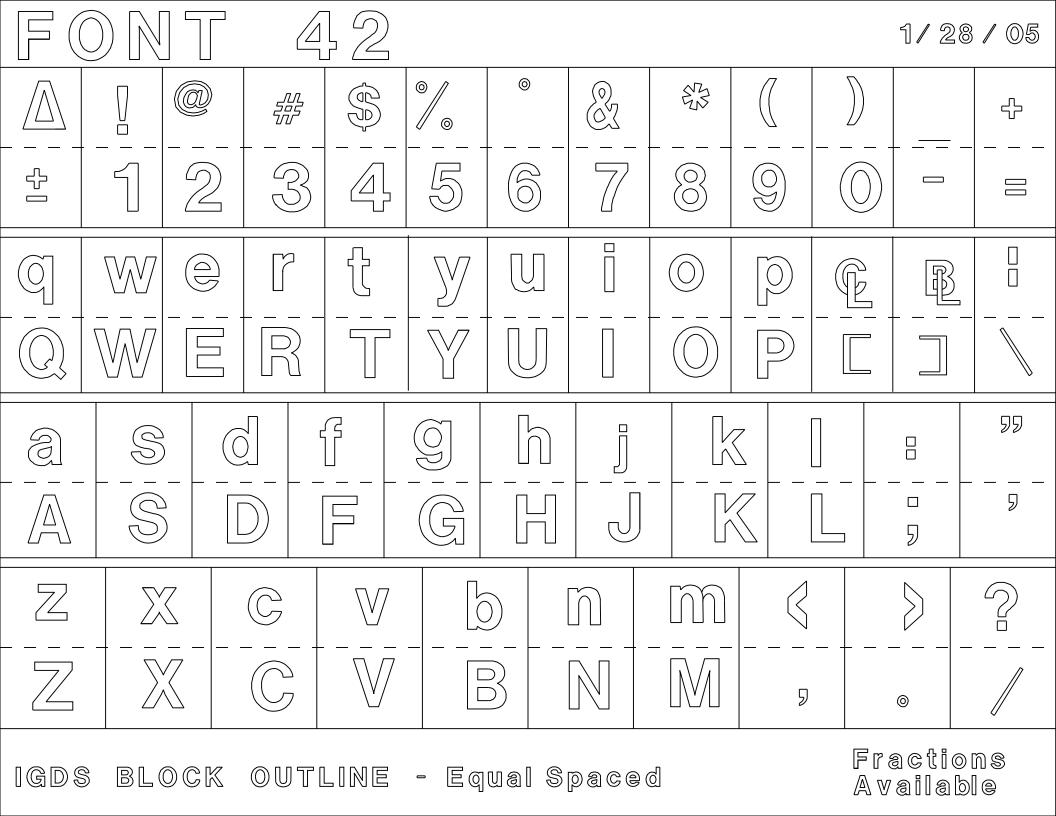
FRACTIONS UP TO 8 THS ARE BUILT-IN. ALL OTHERS ARE SIMULATED.

This font is a "stick font" that came from Intergraph's original IGDS font library. The original font name was also font 42 in the IGDS library. This font is a block-style equally spaced font. This font also included a centerline { , baseline }, and delta symbol ~

The following modification were done on Jan. 2005:

CHARACTER	DESCRIPTION
` to +/-	Accent character replaced with +/- character

NOTE: Character codes for stacked fractions up to 7/8 added.



THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG. the quick brown fox jumps over the lazy dog.

1 23 456 7,890 12,345 678,901

<u>A</u> = 31° 40' 68.495"

*(SEE WK. SH. 10)
STA. 601+00 ±

E HWY. 80

R HWY. 80

1@18 "

2@24"

3@36 "

1/2 1/4 3/4 1/8 3/8 5/8 7/8 1/16 3/16 5/16 7/16 9/16 11/16

FRACTIONS UP TO 8 THS ARE BUILT-IN. ALL OTHERS ARE SIMULATED.

This font is a "stick font" that came from Intergraph's original IGDS font library. The original font name was also font 50 in the IGDS library. This font was originally called the Upper-Case font. It forces all text to be uppercase. It is also an equally spaced font.

CHARACTER	DESCRIPTION
Q	Improved appearance
J	Improved appearance
6	Improved appearance
9	Improved appearance
` to +/-	Accent character replaced with +/- character
~ to Delta	Tilde character replaced with delta character

1/28/05 # *9

UPPERCASE - EQUAL SPACED

NO FRACTIONS

QUICK BROWN FOX JUMPS OVER THE LAZY DOG. THE QUICK BROWN FOX JUMPS OVER THE LAZY DOG.

1 23 456 7,890 12,345 678,901	
699,616	_

Δ= 31° 40′ 68.495"

*(SFF WK, SH, 10)

STA. 601+00 ±

C. L. HWY. 80

B. L. HWY. 80

1@18"

2024"

3@36"

1/2 1/4 3/4

1/8 3/8 5/8 | 1/1/6 3/6 5/6 7/6 9/6 1/1/6 1/3/6 1/3/6

NOTE: THIS FONT CONTAINS NO FRACTIONS. MICROSTATION CAN SIMULATE FRACTIONS WHEN USING THE WORD PROCESSOR, BUT THE FRACTION IS NOT A SINGLE ELEMENT.

SAMPIES

This font is a "stick font" that came from Intergraph's original IGDS font library. The original font name was also font 127 in the IGDS library. This font was originally called the "Fast Font". Its purpose was to replace any font in the display with this font to speed up display. If you turn on the view attribute called fast font then this font would display instead of the original font. With the modern accelerated graphics cards this feature is was removed from Microstation.

As the RWD resource file was modified the fast font for many of the fonts was changed to Font 1, but some fonts still used this font as the fast font. An example would be font 0. In fact, font 127 is identical to font 0. Because font 0 has been modified, font 127 was replaced with the modified font 0.

See Font 0 for appearences